

Notice of Allowability

Application No.

10/735,912

Examiner

Jeffrie R. Lund

Applicant(s)

CHOI, SEUNG-CHUL

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/26/07.
2. ☒ The allowed claim(s) is/are 1,2,6 and 8.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Jeffrie R. Lund
Primary Examiner
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EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with E. R. Hernandez on September 14, 2007.

Claim 1 has been amended to read:

1. (Currently Amended): A chemical vapor deposition apparatus, comprising:
a process chamber, inside of which a wafer is secured to perform a deposition process thereon;

a gas supply assembly mounted in the process chamber and configured to supply a process gas inside the process chamber, wherein the gas supply assembly is divided into a first section that occupies a center portion of the gas supply assembly, and a second section that occupies an outer portion of the gas supply assembly, a process gas line is connected to each of the first section and the second section, and a control valve, opened and closed by the controller, is mounted on the process gas line of the second section;

a vacuum pump mounted in the process chamber and configured to exhaust the process gas from the process chamber;

a chuck mounted in the process chamber and configured to support the wafer; a position control assembly configured to raise and lower the chuck; and

a controller constructed and arranged to control the position control assembly such that a distance between the wafer and the gas supply assembly is varied from an initial position, to an intermediate position, and to an end position during to a plurality of predefined distances corresponding to predefined stages of the deposition process,

wherein the controller controls the position control assembly such that the distance between the wafer and the gas supply assembly is successively increased from the initial position, to the intermediate position, and to the end position to achieve the predefined distances in accordance with the predefined stages of the deposition process, and

wherein the controller controls the control valve to direct the supply of the process gas from the first section of the gas supply assembly while at the initial position, and to the first and second section of the gas supply assembly while at the intermediate and end position in accordance with the predefined stages of the deposition process.

Claims 7 and 9-13 have been cancelled.

2. The following is an examiner's statement of reasons for allowance: the apparatus as claimed in claim 1, specifically, a controller constructed and arranged to control the position control assembly such that a distance between the wafer and the gas supply assembly is varied from an initial position, to an intermediate position, and to an end position during the deposition process, wherein the controller controls the position control assembly such that the distance between the wafer and the gas supply assembly is successively increased from the initial position, to the intermediate position, and to the end position and wherein the controller controls the control valve to direct the

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supply of the process gas from the first section of the gas supply assembly while at the initial position, and to the first and second section of the gas supply assembly while at the intermediate and end position was not found in or suggested by the art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrie R. Lund whose telephone number is (571) 272-1437. The examiner can normally be reached on Monday-Thursday (10:00 am - 9:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

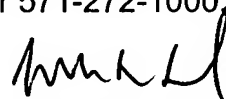
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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Primary Examiner
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JRL
9/15/07